

Mail Stop Interference  
P.O. Box 1450  
Alexandria Va 22313-1450  
Tel: 571-272-4683  
Fax: 571-273-0042

Paper 61  
Filed June 30, 2008

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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JONATHAN D. ZOOK, DAVID W. JORDAN, DEAN M.  
WILLARD, GEORGE JONES, and MICHAEL COSMAN,  
Junior Party ("PBT")  
(U.S. Patents 6,525,168 and 6,723,827),

v.

JONATHAN D. ZOOK, SUSAN E. DEMOSS,  
DAVID W. JORDAN, and CHANDRA B. RAO  
Senior Party ("PRC")  
(U.S. Application 10/644,389).

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Patent Interference No. 105,555 (MPT)  
(Technology Center 1700)

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Before: JAMESON LEE, SALLY GARDNER LANE, and MICHAEL P.  
TIERNEY, Administrative Patent Judges.

Judgment – Priority - Bd. R. 127

TIERNEY, Administrative Patent Judge.

1  
2  
3  
4

1 Junior Party PBT did not file a priority statement and has  
2 acknowledged that it does not contest priority of invention as to Count 1.  
3 (Paper 22, p. 2, ll. 6-7). Judgment on priority of invention as to Count 1 is  
4 entered against PBT.

5 It is:

6 ORDERED that judgment is entered against Junior Party PBT  
7 for Count 1.

8 FURTHER ORDERED that PBT claims 1-13 of involved  
9 U.S. Patent 6,525,168 and claims 9-12 of involved U.S. Patent 6,723,827 are  
10 CANCELLED, 35 U.S.C. § 135(a).

11 FURTHER ORDERED that a copy of this judgment be  
12 entered into the administrative records of the involved U.S. Patents  
13 6,525,168 and 6,723,827 and U.S. Application 10/644,389.

cc (via electronic filing):

Attorney for ZOOK (PBT):

Mark D. Schneider, Esq.  
Douglas W. Sprinkle  
GIFFORD, KRASS, SPRINKLE ANDERSON  
and CITKOWSKI, P.C.  
2701 Troy Center Drive, Suite 330  
Troy, MI 48007  
P.O. Box 7021  
Tel: (248)647-6000  
Fax: (248)647-5210  
Email: [litigation@patlaw.com](mailto:litigation@patlaw.com)

Attorney for ZOOK (PRC):

Jerry D. Voight, Esq.  
Wesley B. Derrick, Esq.  
FINNEGAN, HENDERSON, FARABOW  
GARRETT and DUNNER, LLP  
3300 Hillview Avenue  
Palo Alto, CA 94304-1203  
Tel: (650)849-6630  
Fax: (650)849-6666  
Email: [jerry.voight@finnegan.com](mailto:jerry.voight@finnegan.com)  
Email: [Wesley.derrick@finnegan.com](mailto:Wesley.derrick@finnegan.com)

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Junior Party ("PBT")  
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Patent Interference No. 105,555 (MPT)  
(Technology Center 1700)

Before: JAMESON LEE, SALLY GARDNER LANE, and MICHAEL P.  
TIERNEY, Administrative Patent Judges.

MEMORANDUM OPINION and ORDER  
Decision on Motions

TIERNEY, Administrative Patent Judge.

1 This interference is before a motions panel for a decision on  
2 preliminary motions. An oral argument took place in this interference on  
3 June 18, 2008. Representing Junior Party PBT was Douglas W. Sprinkle.  
4 Senior Party was represented by Jerry D. Voight and Wesley B. Derrick.  
5

6 I. Introduction

7 This interference is directed to polythioethers. The polythioethers  
8 find use in curable compositions that can be used as sealants in the  
9 manufacture of commercial aircraft.

10 There are two motions awaiting decision, each of which was filed by  
11 PBT. PBT Substantive Motion 2 requests that PBT '827 claims 1-8 be  
12 designated as not corresponding to Count 1, the sole count in interference.  
13 Additionally, PBT filed a miscellaneous motion to exclude a senior party  
14 exhibit (SX 1042).<sup>1</sup>

15 PBT's substantive motion to undesignate claims 1-8 of the '827 patent  
16 is not opposed by PRC. PBT '827 claims 1-8 are directed to a process of  
17 making a polythioether. PBT's undesignation motion identifies and  
18 distinguishes the known prior art. Additionally, PBT has provided a  
19 declaration by an inventor who testifies that the claimed process operated in  
20 a manner that was contrary to conventional wisdom. As explained below,  
21 we grant PBT Substantive Motion 2 as it provides a showing that is  
22 supported by un rebutted evidence that is sufficient to justify the relief  
23 sought.

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1 For reasons of convenience we refer to senior party exhibits as "SX" and junior party exhibits as "JX."

1 PBT's miscellaneous motion to exclude evidence is dismissed as moot  
2 since we have not considered or relied upon the exhibit in dispute (SX  
3 1042).

4 PBT is junior party and does not contest priority of invention of  
5 Count 1. Judgment on priority of invention is entered against PBT in a  
6 separate paper mailed concurrent with this decision.

7  
8 II. Findings of Fact

9 The record supports, by a preponderance of the evidence, the  
10 following findings:

11  
12 A. The Real Parties in Interest

13 1. Junior Party ("PBT")

14 1) Advanced Chemistry & Technology is the owner of the entire interest  
15 in "PBT" patents 6,525,168 and 6,723,827.<sup>2</sup> (Paper 7).

16  
17 2. Senior Party

18 2) PRC-Desoto International, Inc. ("PRC") is the real party in interest of  
19 involved U.S. Application 10/644,389. (Paper 11). PRC, formerly  
20 Courtaulds Aerospace, Inc., is a wholly-owned subsidiary of PPG Industries.  
21 (*Id.*).  
22

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2 "PBT Brands, Inc" is listed as the assignee on the front page of the '168  
and '827 patents. To distinguish Junior Party Zook from Senior Party Zook  
we have referred to Junior Party as PBT and Senior Party as PRC.

1           B.     Accorded Priority Benefit

2                1.     Junior Party PBT

3     3)     Junior Party PBT is involved in the interference based on the '168  
4     patent, which issued from U.S. Application 09/802,427, filed March 9, 2001  
5     and the '827 patent, which issued from U.S. Application 10/368,135, filed  
6     on February 20, 2003 and which is a divisional of the '427 application.  
7     (Paper 1, p. 3).

8  
9     4)     PBT been accorded an earlier constructive reduction to practice (*i.e.*,  
10    benefit for the purpose of priority) based on the following application:

11        i)     U.S. Provisional Application 60/188,106, filed March 9, 2000.  
12    (*Id.* at p. 6).

13  
14            2.     Senior Party PRC

15    5)     Senior Party PRC is involved in the interference based upon U.S.  
16    Application 10/644,389, filed August 19, 2003. (*Id.* at p. 4).

17  
18    6)     PRC has been accorded an earlier constructive reduction to practice  
19    (*i.e.*, benefit for the purpose of priority) based on the following applications:

20        i)     U.S. Application 10/302,177, filed November 21, 2002,

21        ii)    U.S. Application 09/756,573, filed January 8, 2001,  
22        issued on January 21, 2003 as U.S. Patent 6,509,418,

23        iii)   U.S. Application 08/928,972, filed September 12, 1997, issued  
24        on January 9, 2001 as U.S. Patent 6,172,179;

iv) U.S. Application 08/802,130, filed February 19, 1997, issued on June 15, 1999 as U.S. Patent 5,912,319.

(*Id.* at p. 6).

7) PBT did not contest priority of invention as against PRC for the subject matter of Count 1. (Paper 22, p. 2).

### C. The Count and Claim Correspondence

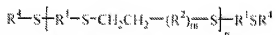
8) There is a single count in the interference, Count 1, which reads as follows:

Claim 6 of U.S. Patent 6,525,168.

(Paper 1, p. 5).

9) PBT '168 claim 6 depends from independent claim 1. PBT '168 claims 1 and 6 read as follows:

1. A polythioether comprising:



wherein  $\text{R}^1$  is a  $\text{C}_{1-16}$  alkyl,  $-(\text{R}^3\text{Q})_p\text{R}^3-$  or  $\text{C}_6-\text{C}_{26}$  aryl where Q is O or S, each  $\text{R}^3$  is independently  $\text{C}_{1-6}$  alkyl, and p is an integer between 0 and 6;  $\text{R}^2$  is  $\text{C}_{1-6}$  alkyloxy or  $\text{C}_{1-12}$  cycloalkyloxy,  $\text{R}^4$  is H,  $\text{C}_{1-6}$  alkyl,  $\text{C}_{1-6}$  alkyl alcohol and  $\text{C}_{6-6}$  alkyl substituted with

$\left[\text{CH}_2\text{CH}_2(\text{R}^5)_m\right]_n\text{X}$ , where X is a halogen, m is an integer between 1 and 4, and n is an integer selected to yield a molecular weight for said polythioether of between 1000 and 10,000 Daltons.



6. The polythioether of claim 1 wherein R<sup>4</sup> is hydrogen.  
(PBT Clean Copy of Claims, Paper 9).

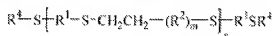
10) The claims of the parties are:

Zook (PRC) U.S. App. 10/644,389: 22-27, 31-36 and 41-43  
Zook (PBT) U.S. Pat. 6,525,168: 1-13  
Zook (PBT) U.S. Pat. 6,723,827: 1-12

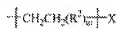
11) Prior to this decision, all of the claims of the parties corresponded to Count 1. (*Id.*).

12) Claim 1 of PBT '827 is representative of the claims that PBT seeks to undesignate and reads as follows:

1. A process for forming a polythioether comprising:



wherein R<sup>1</sup> is a C<sub>1-10</sub> alkyl, -(R<sup>2</sup>Q)<sub>p</sub>R<sup>3</sup>- or C<sub>6</sub>-C<sub>20</sub> aryl where Q is O or S, each R<sup>3</sup> is independently C<sub>1-6</sub> alkyl, and p is an integer between 0 and 6; R<sup>2</sup> is C<sub>1-6</sub> alkyloxy or C<sub>3-12</sub> cycloalkyloxy, R<sup>4</sup> is H, C<sub>1-6</sub> alkyl, C<sub>1-6</sub> alkyl alcohol and C<sub>6-6</sub> alkyl substituted with



where X is a halogen, m is an integer between 1 and 4, and n is an integer selected to yield a molecular weight for said polythioether of between 1000 and 10,000 Daltons comprising the step of: reacting a polythiol and a polyhalide in the presence of an aqueous base.

D. Relevant Prior Art

13) PBT '827 claims 1-8 are generally directed to a process of preparing a polythioether by reacting a polythiol and a polyhalide in the presence of an aqueous base.

14) PBT cites Tarasiuk et al.,<sup>3</sup> which was cited during prosecution of the '827 patent, as relevant prior art. (PBT Motion 2, p. 7, l. 19 to p. 8, l. 11).

15) PBT Substantive Motion 2 cites the English language abstract from Tarasiuk as follows:

Polysulfides were synthesized with high yield by high-temperature solution polycondensation of 4,4'-biphenyldithiol with selected aliphatic and aromatic-aliphatic hydrocarbon dihalides. To determine the optimum polycondensation conditions, the influence of the following factors on reduced viscosity and yield was studied; type of organic solvent, type of hydrogen halide acceptor, concentration of reagents, reaction temperature and reaction time. A thorough examination was carried out only for the polycondensation of dithiol with bis(4-chloromethylphenyl)methane chosen as model system. The structures of the polysulfides were confirmed by elemental analysis. X-ray analysis and infrared spectroscopy. The temperature of initial decomposition, the percentage of mass loss, and the temperature of the fastest decomposition, process were determined from curves of differential thermal and thermogravimetric analysis. Some physicochemical, mechanical and electrical properties were determined. The highest thermal and chemical resistance has been found for the polysulfide obtained from 4,4'-biphenyldithiol and 4,4'-bis(chloromethyl)biphenyl, probably because of the predominantly aromatic structure.

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<sup>3</sup> Tarasiuk et al; "Products of polycondensation of 4, 4'-biphenyldithiol with some hydrocarbon dihalides"; 1997, Chem Abstract 128:61872. ('827 Patent, front page).

1  
2 (Paper 38, p. 7, l. 25 to p. 8, l. 11, quoting an English language abstract of  
3 Tarasiuk).

4  
5 16) The Tarasiuk abstract does not discuss preparing a polythioether by  
6 reacting a polythiol and a polyhalide in the presence of an aqueous base.

7  
8 E. Person of Ordinary Skill in the Art

9 17) The art to which this interference relates is the field of aerospace  
10 sealants and/or polymers that can be used in aerospace sealants. (PRC  
11 Declaration of Dr. Singh, SX 1039, ¶ 30).

12  
13 18) One of ordinary skill in the art at the relevant time would have been  
14 familiar with aerospace sealants and capable of formulating such sealants  
15 based on known or expected properties utilizing polymers, curing agents,  
16 fillers and other commonly used aerospace sealant components. (*Id.*).

17  
18 F. Declaration of Jonathan Zook

19 19) PRC relies upon a declaration from Jonathan Zook to support its  
20 contentions in this interference.

21  
22 20) Mr. Zook is a named inventor on PRC's involved '389 application, as  
23 well as PBT's '168 and '827 patents.

21) Mr. Zook obtained a BS degree in Chemistry from California State University at Northridge in 1978 and was also a graduate assistant there from 1978 to 1980. (JX 2001¶ 2).

22) From 1980 to 1999, Mr. Zook was employed at PRC, and its predecessor, Courtaulds Aerospace, as Vice President and Technology Manager Polymers. (*Id.* at ¶ 3).

23) While at PRC Mr. Zook was responsible for many projects, including research development and evaluation of new coating and sealant polymers. (*Id.*).

24) PBT's expert, Dr. Hakam Singh, acknowledged on cross examination that Jonathan Zook possessed at least ordinary skill in the art of polymers that could be used as aerospace sealants. (SX 1039, ¶ 30 and SX 1050, p. 11, l. 8 to p. 14, l. 14).

25) We find that Mr. Zook is sufficiently qualified to give testimony with respect to the particular facts and techniques known by the average person working in the field of polymers that can be used as aerospace sealants.

26) Mr. Zook provided the following testimony regarding the PRC's claimed process of making a polythioether:

The reaction of polythiols and polyhalides in aqueous base was [at] the time contrary to the conventional wisdom which

1 indicated that thiols oxidize in aqueous solutions to form  
2 disulfides.

3  
4 (JX 2001, ¶ 6).

5  
6 III. Opinion

7 A. PBT Substantive Motion 2 to Undesignate Claims

8 PBT Substantive Motion 2 requests that PBT '827 claims 1-8 be  
9 designated as not corresponding to Count 1, the sole count in interference.  
10 (Paper 38, p. 1, ll. 1-10).<sup>4</sup> Senior Party PRC does not oppose PBT's motion.  
11 (*Id.* at p. 1, ll. 11-19).

12  
13 1. Legal Principles

14 The interference rules provide that:

15 To be sufficient, a motion must provide a showing, supported  
16 with appropriate evidence, such that, if un rebutted, it would  
17 justify the relief sought. The burden of proof is on the movant.

18  
19 37 C.F.R. § 41.208(b). Accordingly, even though PBT's motion is  
20 unopposed, we analyze PBT's motion to determine whether PBT met its  
21 burden of proof. *GN v. SW*, 57 USPQ2d 1073, 1076 (BPAI 2000).

22 To undesignate a claim, a movant must prove that the subject matter  
23 of the count, treated as prior art to the claim, would not have anticipated or  
24 rendered obvious the subject matter of the claim. 37 C.F.R. § 41.207(b)(2).

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4 PBT Substantive Motion 2 is contingent upon the denial of PBT Substantive Motion 1. PBT has withdrawn its motion 1 from consideration. (Paper 58). Accordingly, we hold that PBT Substantive Motion 2 is ripe for consideration.

1 As part of this burden, the movant must demonstrate that it is unaware of  
2 any prior art that would render its claims obvious in view of the count. *GN*  
3 at 1077.

4 The burden of proof for PBT's motion to undesignate claims is by a  
5 preponderance of the evidence. The burden of showing something by a  
6 preponderance of the evidence simply requires the trier of fact to believe that  
7 the existence of a fact is more probable than its nonexistence before the trier  
8 of fact may find in favor of the party who carries the burden. *Concrete Pipe*  
9 *& Products of California, Inc. v. Construction Laborers Pension Trust for*  
10 *Southern California*, 508 U.S. 602, 622, 113 S. Ct. 2264, 2279 (1993).

11  
12 2. PBT Has Met its Burden of Proof that PBT '827  
13 Claims 1-8 are Unobvious over the Count taken in light  
14 of the Prior Art

15  
16 PBT '827 claims 1-8 are directed to a process of forming a genus of  
17 polythioethers having a particular structure. The polythioether is formed by  
18 reacting a polythiol and a polyhalide in the presence of an aqueous base.  
19 The count, in contrast to the claims sought to be undesignated, is directed to  
20 a subgenus of polythioether polymers. The count's polythioether subgenus  
21 falls within the scope of the polythioether polymers formed by the process of  
22 '827 claims 1-8. The count however, does not recite any method steps  
23 involved in the formation of the identified polythioether subgenus.

24 PBT contends that the process claims to be undesignated represent  
25 distinct subject matter. Specifically, PBT states that the '827 process claims  
26 are not anticipated or rendered obvious by the polythioether polymer of the  
27 count. (Paper 38, p. 5, l. 1 to p. 8, l. 14). PBT also represents that the

process claims are not rendered obvious over the count taken in combination with any “known prior art.” (*Id.* at p. 5, ll. 16-17 and p. 7, l. 11-13).

In support of its position, PBT directs our attention to the Tarasiuk English language abstract, which was cited during prosecution of the ‘827 patent. The Tarasiuk abstract describes a process of synthesizing polysulfides by reacting dihalides with dithiols in an organic solvent at high temperatures. The abstract does not mention the use of an aqueous base. PBT concludes that its process claims should be undesignated “owing to the lack of prior art teachings relevant to the subject matter of the ‘827 process claims 1-8.” (*Id.* at p. 8, ll. 12-13).

PBT has submitted and relied upon a declaration by Mr. Zook, a named coinventor of the ‘827 patent. (JX 2001). A PRC expert, Dr. Singh, acknowledged that Mr. Zook possessed at least ordinary skill in the art of polymers that could be used as aerospace sealants. (SX 1039, ¶ 30 and SX 1050, p. 11, l. 8 to p. 14, l. 14). Consistent with PBT’s contentions, Mr. Zook testifies that the reaction of polythiols and polyhalides in an aqueous base ran contrary to the conventional wisdom in the art at the time of the invention. (JX 2001, ¶ 6).

Based upon the record presented, we conclude that it is more likely than not that PBT’s ‘827 process claims 1-8 are not anticipated or rendered obvious by the subject matter of the count. We grant PBT Substantive Motion 2 and designate PBT ‘827 claims 1-8 as *not* corresponding to Count 1.

1 B. PBT Miscellaneous Motion to Exclude Evidence

2 PBT has filed a miscellaneous motion (Paper 49) that seeks to exclude  
3 senior party exhibit 1042, which is a technical document relating to  
4 polymers and sealant formulations. PBT alleges that the exhibit is  
5 inadmissible hearsay. (Paper 49, p. 1, ll. 2-3). PRC opposes. (Paper 52).

6 Senior Party PRC relied upon exhibit 1042 in Senior Party PRC  
7 Opposition 1. PBT Motion 1 however, has been withdrawn from  
8 consideration. (Paper 58). We have not considered or relied upon exhibit  
9 SX 1042. PBT's motion to exclude exhibit 1042 is *dismissed* as moot.

10  
11 IV. Conclusion

12 Junior Party PBT did not file a priority statement and has  
13 acknowledged that it does not contest priority of invention as to Count 1.  
14 (Paper 22, p. 2, ll. 6-7). Judgment on priority of invention as to Count 1 is  
15 entered against PBT in a separate paper mailed concurrent with this decision.

16  
17 V. Order

18 Upon consideration of the record, and for the reasons given, it is:

19 ORDERED that PBT Substantive Motion 2, seeking to  
20 designate PBT '827 claims 1-8 as not corresponding to Count 1, is *granted*.

21 FURTHER ORDERED that PBT Miscellaneous Motion to  
22 Exclude PRC Exhibit 1042 is *dismissed* as moot.

23 FURTHER ORDERED that a copy of this DECISION ON  
24 MOTIONS shall be placed in the files of (1) PBT Patent 6,525,168, (2) PBT  
25 Patent 6,723,827 and (3) PRC U.S. Application 10/644,389.



cc (via electronic filing):

Attorney for ZOOK (PBT):

Mark D. Schneider, Esq.  
Douglas W. Sprinkle  
GIFFORD, KRASS, SPRINKLE ANDERSON  
and CITKOWSKI, P.C.  
2701 Troy Center Drive, Suite 330  
Troy, MI 48007  
P.O. Box 7021  
Tel: (248)647-6000  
Fax: (248)647-5210  
Email: [litigation@patlaw.com](mailto:litigation@patlaw.com)

Attorney for ZOOK (PRC):

Jerry D. Voight, Esq.  
Wesley B. Derrick, Esq.  
FINNEGAN, HENDERSON, FARABOW  
GARRETT and DUNNER, LLP  
3300 Hillview Avenue  
Palo Alto, CA 94304-1203  
Tel: (650)849-6630  
Fax: (650)849-6666  
Email: [jerry.voight@finnegan.com](mailto:jerry.voight@finnegan.com)  
Email: [Wesley.derrick@finnegan.com](mailto:Wesley.derrick@finnegan.com)